

AMENDMENT TO THE CLAIMS

1. (Currently Amended) A method, comprising:

performing authentication, authorization and accounting for a subscriber desiring to connect to a plurality of services on different contexts;

establishing bindings to a plurality of contexts for said subscriber based on said performing, wherein each of the plurality of contexts operates as a virtual router in one network element;

receiving a traffic packet from said subscriber;

accessing at least certain header information from said traffic packet;

selecting one of said plurality of contexts based on at least certain of the accessed header information; and

communicating said traffic packet to the selected context.

2. (Original) The method of claim 1, wherein said selecting comprising:

determining if at least certain accessed header information is associated with a secondary one of the bindings, wherein one of the bindings is a primary binding and the rest of the bindings are secondary bindings;

selecting one of the plurality of the contexts matching the secondary binding as the selected context if there is an association; and

selecting a primary context matching the primary binding as the selected context if there is no association.

3. (Currently Amended) ~~An~~ A network element, comprising:

a virtual circuit unit to receive a plurality of traffic packets from a subscriber, wherein bindings to a plurality of contexts in the network element have been established for the subscriber, and wherein each of the plurality of contexts operates as a virtual router in the network element;

a packet analyzer within the virtual circuit unit to access at least certain header information from each one of said plurality of traffic packets;

a multiple binding unit coupled to said packet analyzer to select one of the plurality of contexts for each one of said plurality of traffic packets based on accessed

header information, and to communicate each one of said plurality traffic packets to the selected one of said plurality of contexts.

4. (Currently Amended) An apparatus comprising;

- a network element to receive traffic packets from a set of one or more subscribers;
- a layer 2 demultiplexer unit in said network element;

- a virtual circuit unit in said network element coupled to said layer 2 demultiplexer unit to perform an authentication, authorization and accounting procedure and to establish bindings to a plurality of contexts for said subscribers, wherein each of the plurality of contexts operates as a virtual router in the network element;

- a packet analyzer in said virtual circuit unit to access at least certain header information from said traffic packets;

- a plurality of contexts in said network element coupled to said virtual circuit unit;

and

- a multiple binding unit in said virtual circuit unit coupled to said packet analyzer to select one of said set of one or more contexts based on at least certain accessed header information and to communicate said traffic packets to the selected context.

5. (Currently Amended) A set of one or more machine-readable medium that provides instructions, which when executed by a set of one or more processors, cause said set of processors to perform operations comprising:

- receiving a plurality of traffic packets from a subscriber, wherein bindings to a plurality of contexts in ~~the~~ a network element have been established for the subscriber, and wherein each of the plurality of contexts operates as a virtual router in the network element;

- accessing at least certain header information from each one of said plurality of traffic packets;

- selecting different ones of the plurality of contexts for different ones of said plurality of traffic packets based on said accessing; and

- communicating each one of said plurality traffic packets to the selected context for each one of said plurality of contexts.

6. (Currently Amended) A method for a network element, comprising:

receiving a plurality of traffic packets from a subscriber, wherein bindings to a plurality of contexts in the network element have been established for the subscriber and wherein each of the plurality of contexts operates as a virtual router in the network element;

accessing at least certain header information from each one of said plurality of traffic packets;

selecting different ones of the plurality of contexts for different ones of said plurality of traffic packets based on said accessing; and

communicating each one of said plurality traffic packets to the selected one of said plurality of contexts.

7. (Original) The method of claim 6, further comprising: performing authentication, authorization and accounting for the subscriber desiring to connect to a service.

8. (Currently Amended) A method for creating multiple bindings in a network element, comprising:

accessing at least certain header information from each one of a plurality of traffic packets; and

associating different header information values to different contexts based on said accessing wherein each of the different contexts operates as a virtual router in a network element.

9. (Currently Amended) A method for a network element, comprising:

receiving traffic packets from a subscriber that have differing header information, wherein bindings to a plurality of contexts in the network element have been established for the subscriber wherein each of the plurality of contexts operates as a virtual router in the network element;

selecting different ones of said plurality of contexts for different ones of said traffic packets based on the different header information; and

communicating said traffic packets to the selected ones of said plurality of contexts.

10. (Original) The method of claim 9 further comprising: performing authentication, authorization and accounting for the subscriber desiring to connect to a service.

11. (Original) The method of claim 9, wherein the packet received via point-to-point (PPP) into the network device.

12. (Currently Amended) The method of claim 9, wherein the packet received ~~or~~ via Dynamic Host Configuration Protocol (DHCP) into the network device.

13. (Original) The method of claim 9, wherein said selecting includes selecting whether the packet is destined for a primary context or a second context.

14. (Original) The method of claim 11, further comprising:
modifying at least certain accessed header information of said packet after said selecting whether the packet is destined for a primary context or a second context.

15. (Original) The method of claim 11, wherein the second context is associated with gaming content.

16. (Original) The method of claim 11, wherein the second context is associated with video content.

17. (Original) The method of claim 11, wherein the second context is associated with a virtual private network (VPN).